THE CAMBRIDGE STATISTICS DISCUSSION GROUP

Thursday 26th April 2018 7:15 for 7:45

Amgen Ltd,
Cambridge Science Park,
Milton Road,
Cambridge CB4 0WG

Statistical Methods in Pre- and Clinical Drug Development: Tumour Growth-Inhibition Model Example

Robert Kozarski, AstraZeneca

Abstract: Modelling of tumour-related outcomes to assess treatment efficacy applies in both pre- and clinical drug development. Stein et al. [2008] proposed a new paradigm to evaluate cancer therapy effectiveness in an early clinical drug development. The model decomposes the observed individual tumour measurements over time into two independent component processes of a constant exponential tumour growth/regrowth and regression (inhibition). The model was also found relevant in modelling pre-clinical in-vivo experimental data, establishing a novel approach in describing the observed tumour volume dynamics beyond a current practice. During the talk, the model pros and cons will be addressed with respect to standard in-vivo efficacy assessment, and Frequentist vs. Bayesian estimation framework. Provided examples will concern application for the Antibody Drug Conjugate (ADC) cancer therapies on a single study and database meta-analysis level.

Speaker: Robert Kozarski worked in the Warsaw School of Economics after gaining a MSc in quantitative methods from there. He then spent a year as a visiting Fulbright scholar at the University of Pennsylvania before moving to Tilburg University (Netherlands) where he gained a MSc and then PhD in Econometrics and modelled financial market volatility. In 2009 Robert started working as a medical statistician at the University of Hertfordshire relating activity signals in humans to health before moving to become a senior statistician at MedImmune and later at AstraZeneca.

Directions: Head north on Milton Road. Two traffic lights before the A14 turn left into the Science Park (clearly signposted). Turn left at the roundabout. The meeting takes place at Amgen in the restaurant in building 214 (the ground floor of the middle building on the attached map which is also at http://imaging.mrc-cbu.cam.ac.uk/statswiki/csdg/amgen). Parking is available on site. There will be no admittance after 7-45pm. Arrivals after 7-45pm can gain admittance by contacting the secretary on 07761769436. **If anyone would like complementary transport to the talk venue from Central Cambridge please inform the secretary in advance of the meeting.**

Provisional Next Meetings:
October – Sarah Walters (London School of Hygiene and Tropical Medicine).
20th November – Fabio Rigat (GSK) & Nicky Best (Imperial).
21st January 2019 – Sylvia Richardson (MRC Biostatistics).
4th February – Sian Evans (Public Health England).
25th February – Nicole Janz (University of Nottingham) on 'Solving the reproducibility crisis'.
19th March – Graham Wheeler (UCL Cancer Trials Centre).

Supper: Some members eat regularly in the University Centre before each meeting at **5-45pm**. Feel free to join them.
Subscriptions: of 1 pound are now due for attending the 2017-2018 session.
Secretary: Peter Watson, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 7EF; telephone 01223 273712; E-mail peter.watson@mrc-cbu.cam.ac.uk

Slides and .mp3 files of old talks: http://www.mrc-cbu.cam.ac.uk/people/peter.watson/csdg.html